

Effect of phaco energy on macular thickness in diabetes mellitus type 2

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Introduction:

Worldwide cataract is the major cause of preventable blindness, affecting 47.8% of patients worldwide. The aim of present study was to find out effect of phaco-parameters used in different grades of nuclear sclerosis.

Material and Method:

Group 1 has 50 diabetic type 2 and group 2 has 61 non diabetic patients as control. The inclusion criteria was Grade NS2 to NS4 by LOCS III criteria, in group 1 patients with type 2 DM with no diabetic retinopathy and group 2 with no systemic disease. Exclusion criteria were systemic disease other than type 2 DM, Age below 45 and above 75, complicated cataract, grade above NS4/below NS2, past History of ocular disease, surgery, laser, intravitreal injection, drugs and eventful cataract surgery. All undergone detail ocular examination and macular thickness by Optical Coherence Tomography before and post operatively on day 01,07,30,60 and on 90th day.

Statistical Analysis:

Statistical analysis was done on SPSS. Continuous variables values over time within the group were analyzed and presented as mean \pm SD. Nominal categorical data between the groups were compared using the chi-square test and Fisher exact test as appropriate. $P < 0.05$ was considered statically significant.

Result:

The mean central macular thickness in both groups preoperatively was $217.06 \pm 17.27 \mu\text{m}$ in group 1 and $203.93 \pm 12.87 \mu\text{m}$ in group 2. On postoperative day 7, central macular thickness in group 1

was $232.40 \pm 16.56 \mu\text{m}$; in group 2 was $218.67 \pm 12.63 \mu\text{m}$ pod 30 macular thickness in both groups increased subsequently $244.36 \pm 18.75 \mu\text{m}$ and $224.13 \pm 13.29 \mu\text{m}$. Mean difference was found more in diabetic patients as compared to non diabetic from POD 7 and POD 30. On postoperative day 60, macular thickness subsequently decreased to $228.24 \pm 16.85 \mu\text{m}$ and $214.3 \pm 12.67 \mu\text{m}$. The macular thickness on pod 90 decreased to $223.12 \pm 18.48 \mu\text{m}$ in group 1 and $205 \pm 12.32 \mu\text{m}$ in group 2.

Conclusions:

The present study shows significant increase of macular thickness due to phaco energy in both groups. But increase of macular thickness doesn't affect the visual acuity postoperatively.

Biography

Manisha Gupta is working in Shri Guru Ram Rai Institute of Medical and Health Sciences, India. She has published more than 35 papers in reputed journals and has been serving as an editorial board member of repute. Her research interests are Phacoemulsification, Senile cataract, Diabetes. She also achieved President's Appreciation Award for outstanding service & contribution to the Dehradun Ophthalmological Society year-2017.